To Analyze Relationship between Working Capital Management and Profitability

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Abstract:

Working Capital plays very important role in every business. It is required for the day to day expenses of the business. This paper basically analysis the relationship between working capital and profitability of the Indian IT Company (TCS). For this purpose various ratios of the firm are used to analyze the relationship. Pearson's coefficient of correlation is found to know the results between various ratios. For finding various results, working capital ratios and profitability ratios are taken. This Study shows negative relationship of inventory turnover ratio with ROA excluding and including Revaluation which shows that with the inventory turnover the firm should increase its return on assets. And also study shows negative relationship of debtor turnover ratio with Return on Capital Employed. All these findings conclude that a firm must put efforts to increase its return on capital employed. This firm can creates more net worth by investing in good projects which yields high return.

Keywords: Working Capital, Profitability, IT Company, Ratios, Pearson's Coefficient, Correlation, ROA, Inventory Turnover, Capital

Introduction

Working capital is important part of firm's capital. Working capital is required for the day to day needs of the firms. It helps to financing the daily needs of the firm. Every firm needs working capital whether it is big or small. It is required for purposes such as purchase of raw-materials, paying electricity bills, paying water bills and various other daily expenses. The requirement of the working capital in a firm is dependent on its size and nature. Small firms needs less working capital as compared to large firms whereas manufacturing firms needs more working capital as compared to trading concerns. Good working capital helps to maintain the solvency and liquidity position of the firm.

Every firm requires significant level of working capital because less working capital creates problem in functioning of day to day operations of the firm and daily production of the firm may get effected whereas more working capital creates ideal of valuable funds of the firm that ideal fund can be invested somewhere in good projects where the firm can generate more money.

Researcher has taken the TCS Company for the study because TCS is number 1 company in India in terms of turnover and it serves the customers all over the world.

This paper is structured as follows: The first section of the paper contains Abstract and introduction of the paper. Second section deals with the review of literature or various studies done by the previous authors. Third section contains conceptual framework of the study and research objectives and research hypothesis. Fourth section deals with the Research Methodology of the study and fifth section includes analysis and interpretation of the study. Finally, the findings and recommendations are discussed.

Review of Literature:-

(Kargar and Blumenthal, 1994) Specified that performance of small business attributed to factors as manufacturing, operations, and marketing. Working capital management may have a consequent impact on small business survival and growth.

(Rafuse, 1996) As working capital is the big problem in all the businesses lack of working capital creates starvation in business. In general, small businesses fail to meet the requirements of working capital.

(Jarvis et al, 1996) The key secret of success of firm always depends upon the cash availability that is cash receipt and cash payments. Small firms are always facing problems in the management of working capital because of poor management of finance in business. Due to the poor working capital management the small companies generally lack in profitability.

(Smith and Begemann 1997) Focused that promotion of working capital emphasized on liquidity and profitability. These two are the main objectives of working capital management. Because of non maintenance of proper working capital the firm may suffer from lack of liquidity which results hurdle in returns and profits of company.

Shin and Soenen, (1998) Emphasized on the working capital which is very much important in point of view of creating more value of firm so that shareholders can get better and good returns. They stressed that management of working capital has a significant impact on both profitability and liquidity.

Deloof, (2003) Basically highlighted that many firms have large amount of capital invested in working capital and it is expected that this will lead to good profitability of the firm. The good working capital firms think that with more working capital they earn more in terms of profits. But using the regression and correlation they found negative relationship between gross operating incomes and accounts payable of many firms.

Ghosh and Maji, (2003) Specified the efficiency of working capital of Indian cement firms. For measuring the good working capital efficiency, profitability and performance indices were calculated instead of using common ratios.

Eljelly, (2004) Have specified that for good working capital and profitability of firm the firm should have planning and proper controlling techniques of assets and liabilities so that proper planning and controlling can eliminate the risk of excessive working capital in firm which leads to ideal of valuable funds of the firm.

Filbeck G. et al. (2005) Study was basically on 26 industries during the period of 1996 to 1999. They find that if a firm decreases its financing cost then firm may get proper working capital in business which will lead to the good profitability of firm.

Lazaridis and Tryfonidis (2006) Basically study that there is a negative relationship between working capital and profitability of small firms. Their study was conducted in other countries like Spain etc.

Singh and Pandey (2008) Studied the working capital and profitability of Hindalco Industries Limited for the Period from 1990 to 2007. The study shows significant impact on profitability by studying the liquid ratio, current ratio and working capital ratio.

Afza and Nazir (2009) Studied the traditional relationship between working capital management and profitability. They took sample of 204 non financial firms listed in (KSE) Karachi Stock Exchange for the period of 1998 to 2005. Their study found a negative relationship between working capital and profitability. They give salutation of this, that the managing team of the firm can increase value if they follow right approach towards working capital and profitability policies of firm.

Gill et al. (2010) Have studied the relationship between both working capital and profitability. The study was conducted in US. They focus on 88 US firms listed in New York Stock Exchange. The study says there is no statistically significant relationship between both. They have given a suggestion for this, that managers can increase the profitability by reducing the number of days for accounts receivables.

Shishir Pandey and Vikas Kumar Jaiswal (2011) Studied the working capital and profitability of manufacturing firms. They used two methods of analysis - regression and correlation. The period of study was five years. The result of relationship between working capital and profitability shows negative relationship between both.

Dr. Ashok Kumar Panigrahi, (2012) Studied the working capital and profitability of ACC Cement Company. The period of study was 10 years. And in research methodology was used is correlation coefficient and regression. Their study shows that few variables have positive correlation and few have no relationship so the ultimate results show by study is moderate relationship between both.

Objectives of the Study:

i. To determine whether there is a significant relationship between Inventory Turnover Ratios and Profitability of the firm.

ii. To establish whether there is a significant relationship between Debtor Turnover Ratio and Profitability of the firm.

iii. To ascertain if there is a significant relationship between Investments Turnover Ratio and Profitability of the firm.

iv. To examine if there is a significant relationship between Fixed Assets Turnover Ratio and Profitability of the firm.

v. To determine whether there is significant relationship between Total Asset Turnover ratio and Profitability of Firm.

vi. To ascertain whether there is a significant relationship between Asset Turnover Ratio and Profitability of Firm.

vii. To examine if there is a significant relationship between Number of days in Working Capital and Profitability of the Firm.

Research Hypotheses:

i. Ho_1: There is no significant relationship between Inventory Turnover Ratios and Profitability of the firm.

ii. Ho_2: There is no significant relationship between Debtor Turnover Ratio and Profitability of the firm.

iii. Ho_3: There is no significant relationship between Investments Turnover Ratio and Profitability of the firm.

iv. Ho_4: There is no significant relationship between Fixed Assets Turnover Ratio and Profitability of the firm.

v. Ho_5: There is no significant relationship between Total Asset Turnover ratio and Profitability of the firm.

vi. Ho_6: There is no significant relationship between Asset Turnover Ratio and Profitability of the firm.

vii. Ho_7: There is no significant relationship between Number of days in Working Capital and Profitability of the firm.

Research Methodology

Problem Formulation: - To analyze relationship between working capital and Profitability

Sample Size: - Organization selected for research is Tata Consultancy Services (TCS).
Researcher has selected this organization because TATA Consultancy Services is an Indian IT company offering consulting and other IT enabled services to clients all over the world.

Sources of Data Collection: -
Data is collected from various secondary sources like Ratios of firm taken from sources like www.TCS.com, www.moneycontrol.com and other sources.

Data and Variables selected for study: - Data for this study is collected from the top IT Indian Company from 2013-2017 (5 Years). The required data was collected from various secondary sources.

In order to analyze the relationship between working capital and profitability various ratios are studied.
In order to analyze profitability various ratios like Operating Profit Margin ratio, Profit Before Interest And Tax Margin, Gross Profit Margin, Cash Profit Margin, Adjusted Cash Margin, Net Profit Margin, Adjusted Net Profit Margin, Return On Capital Employed, Return On Net Worth, Adjusted Return on Net Worth, Return on Assets Excluding Revaluations, Return on Assets Including Revaluations, and Return on Long Term Funds Ratios are considered.
For Working Capital Ratios various ratios like Inventory Turnover Ratio, Debtors Turnover Ratio, Investments Turnover Ratio, Fixed Assets Turnover Ratio, Total Assets Turnover Ratio, Asset Turnover Ratio and Number of Days in Working Capital are calculated.

Conceptual Framework

Independent Variables

(Profitability Ratios)

Operating Profit Margin (%)
Profit Before Interest And Tax Margin (%)
Gross Profit Margin (%)
Cash Profit Margin (%)
Adjusted Cash Margin (%)
Net Profit Margin (%)
Adjusted Net Profit Margin (%)
Return On Capital Employed (%)
Return On Net Worth (%)
Adjusted Return on Net Worth (%)
Return on Assets Excluding Revaluations
Return on Assets Including Revaluations
Return on Long Term Funds (%)

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Dependent Variable

(Working capital ratios)

Inventory Turnover Ratio
Debtors Turnover Ratio
Investments Turnover Ratio
Fixed Assets Turnover Ratio
Total Assets Turnover Ratio
Asset Turnover Ratio
Number of Days In Working Capital

Figure: 1

Statistical Tool: -

Empirical Analysis

In this section, the empirical results are presented from quantitative data analysis using SPSS. Descriptive analysis is presented first followed by the Karl Pearson coefficient of correlation.

TCS	Mar-17	Mar-16	Mar-15	Mar-14	Mar-13
Working capital ratios:-					
Inventory Turnover Ratio	4,413.95	9,540.44	5,962.90	7,546.80	7,638.32
Debtors Turnover Ratio	5.19	4.76	4.67	5.04	4.77
Investments Turnover Ratio	4,413.95	9,540.44	5,962.90	7,546.80	7,638.32
Fixed Assets Turnover Ratio	10.06	9.48	5.23	5.79	5.32
Total Assets Turnover Ratio	1.18	1.32	1.61	1.47	1.48
Asset Turnover Ratio	1.29	1.55	1.64	1.68	1.68
Number of Days In Working Capital	37.45	72.05	140.01	137.53	110.67
Profitability ratios					
Operating Profit Margin(%)	29.22	31.5	28.57	33.29	29.54
Profit Before Interest And Tax Margin(%)	26.23	28.55	25.15	30.17	26.65
Gross Profit Margin(%)	27.52	29.8	26.68	31.62	27.88
Cash Profit Margin(%)	25.93	27.37	25.78	28.84	26.82
Adjusted Cash Margin(%)	25.93	27.37	25.78	28.84	26.82
Net Profit Margin(%)	25.51	26.87	26.17	28.56	26.4
Adjusted Net Profit Margin(%)	24.31	25.74	24.67	27.25	25.24
Return On Capital Employed(%)	38.43	45.03	52.77	53.39	48.07
Return On Net Worth(%)	30.31	35.49	42.4	41.87	39.32
Adjusted Return on Net Worth(%)	30.31	35.49	41.23	41.87	39.32
Return on Assets Excluding Revaluations	395.96	329.94	231.87	224.9	165.86
Return on Assets Including Revaluations	395.96	329.94	231.87	224.9	165.86
Return on Long Term Funds(%)	38.53	45.11	52.99	53.39	48.19

Pearson Correlations Analysis

Table 1: Pearson Bivariate Correlation Coefficients

	Operating Profit Margin	Profit Before Int. and tax Margin	Gross Profit Margin	Cash Profit Margin	Adj. Cash Margin	Net Profit Margin	Adj. Net Profit Margin	Return on Cap. Employed	Return on Net Worth	Adj. Return on Net Worth	ROA Excluding Revaluation	ROA Including Revaluations	Return on Long term Funds
Inventory Turnover Ratio	.568	.604	.586	.611	.611	.551	.602	.322	.306	.355	-.317	-.317	.317
Debtor Turnover Ratio	.260	.285	.277	.180	.180	.052	.086	-.509	-.573	-.573	.547	.547	-.516
Invest. Turnover Ratio	.586	.604	.586	.611	.611	.551	.602	.322	.306	.306	-.317	-.317	.317
Fixed Asset Turnover	.015	.603	.28	-.175	-.175	-.368	-.293	-.875	-.922*	-.922*	.948*	.948*	-.877
Total Asset Turnover	-.063	-.129	-.86	.082	.082	.320	.228	.923*	-.960**	.960**	.936*	-.855	.928*
Asset Turnover Ratio	.317	.281	.304	.476	.476	.615	.575	.909*	.931*	.931*	.951*	-.920	.908*
Number of Days in Working Capital	.202	.133	.179	.340	.340	.567	.479	.989**	.995**	.995**	.990**	-.854	.989**

**. Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed).

Source: MoneyControl.com, Excel & SPSS Output

Table 1 shows that the **Inventory Turnover Ratios** are positively related to operating Profit Margin, Profit before Interest and taxes, Gross Profit, Cash Profit Margin, Adjusted cash Margin, Return on Capital Employed, Net Profit Margin, Return on net Worth and Adjusted Return on net worth which shows that Company is doing good whereas it has negatively related to the return on Assets both excluding revaluation and including revaluations which shows that assets have not sufficient allocation.

Debtor Turnover Ratio shows positive relation with operating Profit Margin, Profit before Interest and taxes, Gross Profit, Cash Profit Margin, Adjusted cash Margin, return on Assets both excluding revaluation and including revaluations with means ratio determine the efficiency with which the trade debtors are managed. Whereas it has a negative relationship between Return on capital employed, return on net worth and return on long term loans which indicates the view that the less the time taken by customers to pay their bills, the more cash is available to replenish the inventory hence leading to more sales which result to an increase in profitability.

Investment Turnover Ratio shows firm’s ability of generating profit per 100 rupee of long term investment in capital employed. This shows positive relation between operating Profit Margin, Profit before Interest and taxes, Gross Profit, Cash Profit Margin, Adjusted cash Margin, Return on Capital Employed, Net Profit Margin, Return on net Worth and Adjusted Return on net worth and negative relation between return on assets both including revaluation and excluding revaluation. This ratio shows positive relation between profits so it means that company has invested in good investments.

Fixed Assets Turnover Ratio shows positive relation with operating profit margin, profit before interest and taxes, gross profit margin, return on assets and negative relation with cash profit margin, adjusted cash margin, net profit margin, return on capital employed and return on long term funds. The ratio indicates firm’s ability to generate sales per rupees of investment in fixed assets.

Total assets Turnover Ratio shows positive relation with Cash Profit Margin, Adjusted cash Margin, Return on Capital Employed, Net Profit Margin, Return on net Worth, Adjusted Return on net worth, net profit margin, return on capital employed, return on net worth, adjusted return on net worth and return on long term loans whereas it shows negative relation with operating profit margin, profit before interest and taxes, gross profit margin and return on assets.

Asset Turnover Ratio shows positive relation with all other ratios except return on assets both excluding revaluation and including revaluations.

Number of Days in Working Capital shows the firm’s ability to generate sales. This ratio shows positive relation with all other ratios except return on assets both excluding revaluation and including revaluations.

Findings of the Study

Working Capital Ratios ↓	**Highly Positive Correlated (999-922)**	**Positive correlated (922-.001)**	**Negative Correlated(All Negative Variables)**
Inventory Turnover Ratio	---------	Operating Profit Margin, PBIT, Gross Profit Margin, Cash profit Margin, Adjusted cash margin, Net Profit Margin, Return On Capital Employed, Return On Net Worth, Adjusted Return on Net Worth, Return on Long term funds.	Return on Assets Excluding Revaluations, Return on Assets Including Revaluations.

Debtor Turnover Ratio	---------	Operating Profit Margin, PBIT, Gross Profit Margin, Cash profit Margin, Adjusted cash margin, Net Profit Margin, Return on Assets Excluding Revaluations, Return on Assets Including Revaluations.	Return On Capital Employed, Return On Net Worth, Adjusted Return on Net Worth, Return on Long term funds.
Investment Turnover Ratio	---------	Operating Profit Margin, PBIT, Gross Profit Margin, Cash Profit Margin, Adjusted cash margin, Net Profit Margin, Return On Capital Employed, Return On Net Worth, Adjusted Return on Net Worth, Return on Long term funds.	Return on Assets Excluding Revaluations, Return on Assets Including Revaluations.
Fixed Asset Turnover Ratio	Return on Assets Excluding Revaluations, Return on Assets Including Revaluations.	Operating Profit Margin, PBIT, Gross Profit Margin.	Cash Profit Margin, Adjusted cash margin, Net Profit Margin, Return On Capital Employed, Return On Net Worth, Adjusted Return on Net Worth, Return on Long term funds.
Total Asset Turnover Ratio	Return On Capital Employed, Adjusted Return on Net Worth, Return on Assets Excluding Revaluations, Return on Long term funds.	Cash Profit Margin, Adjusted cash margin, Net Profit Margin, Adjusted Net Profit Margin.	Operating Profit Margin, PBIT, Gross Profit Margin, Return on Assets Including Revaluations, Return On Net Worth.
Asset Turnover Ratio	Return On Capital Employed, Return On Net Worth, Adjusted Return on Net Worth, Return on Assets Excluding Revaluations, Return on Long term funds.	Operating Profit Margin, PBIT, Gross Profit Margin, Cash Profit Margin, Adjusted cash margin, Net Profit Margin, Adjusted Net Profit Margin.	Return on Assets Including Revaluations.
No. of Days in Working Capital	Return On Capital Employed, Return On Net Worth, Adjusted Return on Net Worth, Return on Assets Excluding Revaluations, Return on Long term funds.	Operating Profit Margin, PBIT, Gross Profit Margin, Cash Profit Margin, Adjusted cash margin, Net Profit Margin, Adjusted Net Profit Margin.	Return on Assets Including Revaluations.

Limitations of the Study:

- Due to time constraints study is limited only to one specific company.
- Results are based on only on available data. Researcher cannot guarantee the authenticity and reliability of data.

- The data is based on the analysis of last 5 years data, so recommendations and suggestions are based on finding of this data.

Recommendations:

- The study recommends that there should be proper relationship between working capital and profitability of the firm because working capital plays a vital role for the smooth running of the firm. For the good profitability there should be proper working capital in the firm so that firm can achieve its day to needs. It should be balanced not high not low because high working capital leads to ideal of funds in company and less working capital leads to hurdle in the working of the firm. This should always keep in the mind while management of working Capital.
- Inventory turnover ratios are positively associated with profit and profit margin so company should put efforts to maintain that for the smooth stick turnover in future also.
- Debtor’s turnover ratio is also positively related with profits so it means the company has good trade debtors and they are also well managed. So it is good for company if they maintain this throughout the life time.
- As to improve more investment turnover ratio the company should invest in more than one investment. Always put money into different investment options to get more returns and flexible returns.

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